

**Total Pages—3 4th SS—BOT (Core-VIII)
(Reg)**

2019

BOTANY

(*Molecular Biology*)

[Core]

Paper — VIII

Full Marks : 60

Time : $2\frac{1}{2}$ hours

Answer all questions

The figures in the right-hand margin indicate marks

GROUP — A

1. Answer *all* the questions : 3 × 4

- (a) Nucleosome**
- (b) Semiconservative DNA replication**
- (c) Central dogma**
- (d) Operon concept.**

(Turn Over)

(2)

GROUP – B

Answer all questions

2. Describe the structure of DNA in the perspective of Watson and Cricks model. 12

Or

Write notes on any *two* : 6 × 2

- (i) Cot curves
- (ii) Griffith's Experiment
- (iii) T-RNA.

3. Give an account of DNA replication in prokaryotes. 12

Or

Describe role of different enzymes in DNA replication. 12

4. Describe mechanism of transcription in Eukaryotes. 12

Or

Write notes on any *two* : 6 × 2

- (i) Genetic Code

(3)

(ii) Gene silencing

(iii) RNA polymerase.

5. What is Gene regulation ? Describe Lac operon concept of gene regulation. 12

Or

Write short notes on any *two* : 6 × 2

(i) Split gene

(ii) Inhibitors of protein synthesis

(iii) Structure of Ribosome.

Total Pages—3

**4th SS—BOT (Core-IX)
(Reg)**

2019

BOTANY

(Plant Ecology and Phytogeography)

[Core]

Paper — IX

Full Marks : 60

Time : $2\frac{1}{2}$ hours

Answer all questions

The figures in the right-hand margin indicate marks

Draw labelled diagrams wherever necessary

GROUP — A

1. Write short notes on the following : 3 × 4

(a) Homeostasis

(b) Food Web

(c) Ecotone

(d) Edemism.

(Turn Over)

(2)

GROUP – B

Answer all questions

2. Give an account of the effect of light and temperature on the distribution of plants. 12

Or

With suitable examples discuss the mechanism of ecological adaptation in hydrophytes.

3. What is biotic factor ? Give a broad outline of various types of positive and negative interactions among organism. 12

Or

What is Population ? Give a brief account of various characteristics of a population.

4. What is ecological succession ? Discuss various theories of climax concept in succession. 12

Or

Define a biotic community. Describe the various features that characterise a community.

5. Define Primary Production. Give an account of net primary productivity of different kinds of ecosystem.

12

Or

What is Phytogeography? Give a brief account of major terrestrial biomes studied by you.

Total Pages—3

4th SS—BOT(Core-X)
(Reg)

2019

BOTANY

(*Plant Systematics*)

[Core]

Paper — X

Full Marks : 60

Time : $2\frac{1}{2}$ hours

Answer all questions

The figures in the right-hand margin indicate marks

GROUP — A

1. Write short notes on : 3 × 4

(i) E-flora

(ii) Principles of ICN

(iii) Inflorescence of Asteraceae

(iv) Cladogram

(Turn Over)

(2)

GROUP – B

Answer all questions :

2. Write an essay on Field inventory. 12

Or

(a) Herbarium

(b) Taxonomic species concept.

3. Describe the classification given by Engler and Prantl with merits and demerits. 12

Or

What is APG type of classification ? Discuss APG-III system.

4. Write in technical terms of Family Solanaceae with Floral Formula and Floral diagram. Give three botanical names of plants having economic importance. 12

(3)

Or

Describe Family Poaceae with floral Formula and Floral diagram. Give three botanical names of plants having economic importance.

- 5. Describe monophyly, paraphyly and polyphyly in angiosperm.** 12

Or

(a) Homology and analogy.

(b) Phylogenetic tree.

Total Pages—3

**4th SS—ZOOLOGY (GE-IV)
(Reg)**

2019

ZOOLOGY

(*Environment and Public Health*)

[Generic Elective]

Paper – IV

Full Marks : 60

Time : $2\frac{1}{2}$ hours

Answer all questions

The figures in the right-hand margin indicate marks

GROUP – A

(Compulsory)

1. Answer *all* questions :

3 × 4

(i) What is hazard identification ?

(ii) How does ozone layer protect us ?

(Turn Over)

(2)

(iii) What is Eutrophication ?

(iv) Write the symptoms of Typhoid fever.

GROUP – B

Answer all questions

2. Explain persistent toxic substances, fates and effects.

12

Or

Write notes (any two) :

(i) Environmental Hazards

(ii) Exposure assessment

(iii) Dose response assessment.

3. Write an essay on greenhouse effect and Global warming.

12

Or

Write notes (any two) :

(i) Acid rain

~~(ii)~~ Ozone hole

~~(iii)~~ Climate change.

4. Explain the air pollution in detail.

12

Or

Write notes (any *two*) :

~~(i)~~ Noise pollution

~~(ii)~~ Control of water pollution

~~(iii)~~ Biological magnification.

5. Describe the different methods of disposal of solid wastes.

12

Or

Write notes (any *two*) :

(i) Asthma

(ii) Cholera

(iii) Tuberculosis.

Total Pages—3

**4th SS—BOT (SEC-II)
(Reg)**

2019

BOTANY

(*Ethnobotany*)

[SEC]

Paper — II

Full Marks : 40

Time : 2 hours

Answer all questions

The figures in the right-hand margin indicate marks

GROUP — A

- 1. Write notes on the following (any *two*) : 4 × 2**
- (i) Preparation of Mahua**
 - (ii) Purpose of Herbaria**
 - (iii) Rauvolfia**
 - (iv) The Haldi (Turmeric) patent.**

(Turn Over)

(2)

GROUP – B

Answer all questions

2. Describe briefly about the plants used by tribals for food and beverages. 8

Or

Discuss briefly the scope of ethnobotany.

3. Give an account of role of field work in ethnobotanical studies. 8

Or

Discuss the various methods used for ethnobotanical studies.

4. Write an essay on Medico-ethnobotanical studies in India. 8

Or

Discuss the role of ethnobotany in Modern Medicine.

(3)

5. Write an essay on Traditional Knowledge.

8

Or

Discuss the various aspects of Intellectual Property Rights.
